

US EPA ARCHIVE DOCUMENT

WEYERHAEUSER COMPANY  
FLINT RIVER OPERATIONS

PROJECT XL

FINAL PROJECT AGREEMENT (FPA)

*2001 ANNUAL PROGRESS REPORT*

(JANUARY 01 - DECEMBER 01)

# **FLINT RIVER OPERATIONS PROJECT XL**

## **2001 ANNUAL PROGRESS REPORT**

**(JANUARY 01 - DECEMBER 01)**

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## FLINT RIVER OPERATIONS PROJECT XL

### 2001 ANNUAL PROGRESS REPORT

(JANUARY 01 - DECEMBER 01)

#### I. OVERVIEW:

*Note: The 2001 Annual FPA Tables One, Two and Three summarize the facility's actual environmental performance results versus the FPA superior environmental goals. The 2001 Annual Progress Report narrative provides detailed technical information describing the specific actions taken by the facility to achieve the superior environmental performance goals. Please refer to the "Glossary of Terms" for an explanation of abbreviations.*

#### SUMMARY

Within this Project XL agreement, ten major objectives were committed to by Weyerhaeuser over the fifteen year term of the agreement. At this time six of those committed objectives have been reached. They continue to be managed and maintained to provide superior environmental performance in line with the Environmental Protection Agency goals for this pilot program. The remaining four objectives continue in the facilities plans. This Project XL annual progress report focuses on the work that is being done to bring the remaining projects to completion.

One of the main objectives during 2001 was to improve the Environmental Management System (EMS) and to prepare it for certification with an external registrar. In August an internal audit was conducted, led by a consultant, to evaluate the readiness of the EMS. Some minor issues for improvement were identified and corrected. In early December a formal three and a half-day registration audit was conducted by QMI (ISO registrar). At the conclusion of this thorough inspection of Weyerhaeuser's Flint River Operations environmental systems and procedures the auditors announced they were making a recommendation for registration to ISO 14001. A certificate is expected in early 2002.

The solid waste reduction project has not yet met the goals of the agreement, but much effort has gone into studying and evaluating options that can deliver results provided the projects can meet the criteria of Weyerhaeuser's capital funding process. This process evaluates opportunities and the business justification for spending capital funding. Use of water to make pulp was reduced again this year. Steady progress is being made to achieve the XL goal of 10.18 MGD. Improvements to boiler operation again lowered the amount of steam that is required to make a ton of finished product. This year's performance places the plant just short of the goal of 20.0 M#/ADMT. The Bleach Plant Effluent Reduction project is the only project where a feasible option for achieving the goal continues to be elusive. The original feasibility study did not provide an economically justifiable solution. Weyerhaeuser continues to seek ideas from resources within the company, academia, and consultants.

#### II. ENVIRONMENTAL PERFORMANCE UPDATE:

One of the primary objectives of the FPA was to delineate the level of superior environmental performance that the Flint River Operations would achieve under its MIM evolution strategy. These superior environmental performance targets are specified in Tables One, Two and Three of the FPA. The tables have been updated to reflect the facility's actual environmental performance through December 2001. Water quality parameters (BOD, TSS, and AOX) continue to demonstrate superior environmental performance, remaining under the tighter permit limits that were established at the beginning of this agreement. Raw water usage averaged 10.93 MGD, below the MIM Phase IV target of 11.5 MGD. Improvement continues to move us toward the MIM Phase V goal of 10.18 MGD. Solid Waste generation increased over last year's performance, however, studies are under way to evaluate projects that will greatly reduce lime mud as a waste. Hazardous waste generation was reduced early in this project and remains at low levels, placing the site in the Conditionally Exempt Small Quantity Generator category.

### III. MINIMUM IMPACT MANUFACTURING:

#### MIM Phase IV Implementation

MIM Phase IV covers the construction and operation of several process technology improvements (Isothermal Cooking - Brownside Optimization, Odor Control Upgrade, Energy Steam Reductions) and the conversion of Flint River Operation's environmental management system (EMS) to conform to ISO 14001. All of these MIM Phase IV projects have been implemented.

#### MIM Phase V Implementation

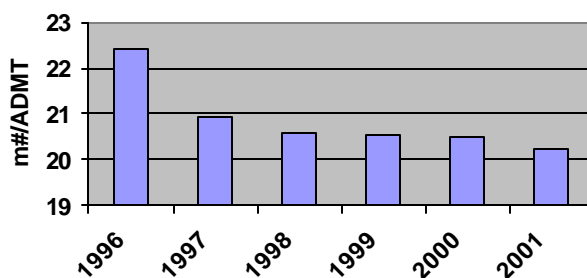
In 2001, MIM Phase V Feasibility Studies continued in the following areas: Solid Waste Reductions, Energy Conservation, HAPs Emission Reductions, Water Use Reduction and Bleach Plant Effluent Reduction. The Timberlands Resource Strategies were fully implemented in 1997.

**Solid Waste Reductions:** Solid waste generation during the year was 596 lbs/ADMT of production, an increase over the previous year's result. Waste reduction was again impacted significantly by continuing Calciner operating and mechanical reliability issues. There were a total of 8 outages during the year of the Calciner for de-scaling when historically there have only been 5 or 6. Each of these de-scalings causes the Calciner to be shut down for days while lime mud generation continues. Far more lime mud must be hauled to the landfill during these periods as well as the de-scale material. Lime mud to the landfill increased 27% over the previous year. Lime mud accounted for 76% of the total solid waste in 2001.

Even though solid waste increased this year, effort has not stopped to achieve the Project XL goal of a 50% reduction. A chemical addition to the liquor loop has been carefully studied during the year that promises to make a very large impact in reducing lime mud as a solid waste. If it is determined that this chemical addition will not result in negative impacts to plant operations, then a conservative estimate is that lime mud will be reduced by 20%. This reduction in itself would approach the Phase V goal of 310 lb/ADMT of solid waste. Other options are still being evaluated, including installing a lime kiln at the facility or trucking lime mud to a nearby company that currently has an unused kiln.

**Energy Conservation:** The energy reduction goal for Project XL is 20.0 M#/ADMT. During the year the Power Boiler Advanced Controls project was completed and has improved the efficiency of this boiler. Steam usage per ton of production of the plant decreased again this year reaching 20.21 M#/ADMT. The steady decline of energy usage to produce pulp is depicted in the graph below.

**Steam Usage/Ton of Production**

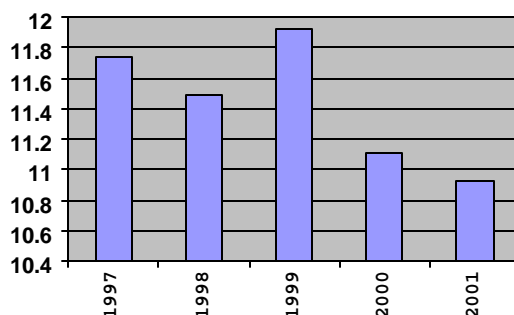


Over the next several years additional projects are up for consideration for capital funding that promise to drop this measure of energy usage well below the goal of 20.0 M#/ADMT.

**HAP's Emission Reductions:** During the first half of 2001 the Site-Specific MACT Rule was edited and circulated within the USEPA. On June 27, 2001 the final rule was published in the Federal Register. This completes the implementation of this project in the FPA and the final milestone of this project. Weyerhaeuser continues to operate the vent collection system as described in previous annual and mid year Project XL reports. This ensures that the facility is collecting and destroying more HAPs than would be collected if the plant were strictly following the standard MACT Rule.

**Water Use Reductions:** Water usage in the plant continued to decline since the implementation of several water reduction projects last year. The facility has maintained water usage well below the revised Surface Water Permit limits since they were lowered by 1 MGD in August 2000. No permit violations have occurred. A new water saving project was evaluated in the second half of 2001, however, this did not prove feasible as the project was developed in the planning process and was dropped. Capital funding is extremely tight for 2002 for all project work in the plant and no new water projects are specifically identified for implementation in 2002. Water usage did decline during the year due to increased attention to mill processes and a concerted effort to look for and identify opportunities to more efficiently use the equipment that is presently installed. Resources in production areas of the plant believe there are additional efficiencies to be found and the plantwide target for water usage has been lowered again for this year. Water conservation is a priority on the facility's business plan and within the Environmental Management System (EMS).

**Total Water Usage (MGD)**



The longer-term goal of the XL agreement is to reach a total water usage (surface water plus groundwater) level of 10.18 MGD. Weyerhaeuser is committed to continue moving toward this goal.

**Bleach Plant Effluent Reductions:** The feasibility study as outlined in the FPA was completed several years ago. The study was done to determine the equipment required, effects on product quality and effluent, and estimated capital costs. Based on the completed feasibility study, the proposed approach is not economically feasible. Pulp purchasers in Europe and North America have indicated no interest in paying a higher price to cover manufacturing costs for pulp from a mill with a closed bleach plant. Weyerhaeuser continues to solicit ideas from academic researchers, consultants, and company resources for alternative methods of reducing bleach effluent flow in a cost-effective manner. Any developments from these sources will be closely studied. Weyerhaeuser remains committed to finding a feasible solution, both technically and economically, and to implementing economical projects that have environmental benefits that were recognized from the original feasibility study.

Even though the project approach to reduce the effluent to 10 m<sup>3</sup>/ADMT has not been executed, there were several valuable learnings from the feasibility study that the plant continues to use in other projects throughout the mill. What was learned was the value to reduce chlorides in the pulping process liquor loop, the use of oxidizers, and the value of lower Kappa numbers feeding the Bleach Plant. Several chloride reduction projects have been implemented over the past five years. A split caustic system was installed so that membrane caustic, low in chlorides, is used in the Utilities Unit where it enters the liquor loop. Salt Cake is dumped from the

Recovery Boiler generator bank hoppers (high in chlorides) and low chloride sodium sesquisulfate is used as a replacement from the  $\text{ClO}_2$  Generator. NaSH was discontinued as a make-up to the liquor loop because it is high in chlorides. Reducing the chlorides in the liquor loop allows the Recovery Boiler to run an entire year without having to shutdown for a water wash. Eliminating water washes of the boiler reduces losses of liquor to the sewer with corresponding high BOD and color to the waste treatment system. Hydrogen Peroxide is now used in the Bleach Plant which substitutes for some of the  $\text{ClO}_2$  needed for bleaching and is expected to reduce effluent color, BOD and AOX. This project was a direct recommendation from the Bleach Plant Effluent Reduction feasibility study. And finally, the project under development mentioned in the Solid Waste Reduction section (chemical addition to the liquor loop) is a lime cycle improvement that aids the liquor loop and reduces residuals. All of these projects are spin-offs of the knowledge gained from the Bleach Effluent feasibility study and have measurable environmental benefits.

#### **IV. STAKEHOLDER INVOLVEMENT:**

Weyerhaeuser openly communicates concerning the status of operation under the FPA, answering all questions and inquiries. On February 1, 2001 the fourth annual stakeholders meeting was held at the facility near Oglethorpe, Georgia. This meeting was open to the public and was advertised in area newspapers. The feedback obtained from the meeting was very supportive of both the Project XL Program and Weyerhaeuser's environmental performance.

U.S. EPA has maintained an updated Project XL Internet page, which contains a copy of the approved FPA document and other associated information. This 2001 Annual Progress Report will be available on U.S. EPA's Project XL Internet page at <http://www.epa.gov/ProjectXL/weyer/>.

The following is a listing of meetings and conferences that Weyerhaeuser personnel have attended and participated in to share information regarding the FPA and Project XL during 2001:

Project XL Annual Stakeholders Meeting  
     Presented Project XL Progress Report  
 Environmental and Project XL Briefing  
     Spoke to representatives of a potential new customer of Flint River pulp  
 Environmental and Project XL Briefing  
     Spoke to representatives of a current customer of Flint River pulp  
 Project XL Presentation  
     Given to approximately 40 members of Southwest Georgia Water Resource Task Force, Inc.

#### **V. FINAL PROJECT AGREEMENT IMPLEMENTATION:**

##### **Regulatory Actions**

On June 27, 2001 the final Site-Specific MACT rule was published in the Federal Register for Weyerhaeuser's Flint River facility.

##### **FPA Section IX: Implementation Schedule**

Progress against the implementation timelines outlined in FPA Section IX. - Implementing Project XL for Flint River Operations is as follows:

##### **Mechanisms That Are Enforceable:**

|              |   |
|--------------|---|
| WATER:       | Items 1, 2, 3, 4, 5 - Completed in NPDES permit.  |
| WATER USAGE: | Item 1 - Completed in the facility's Surface Water Permit   |
| SOLID WASTE: | Item 1 - Permit modification request submitted in late 1998. Georgia EPD has stated it will not issue this permit modification. |

AIR: Items 1, 2, 3, 4, 5, 6 - Completed in PSD air quality permit. Item 7 – Complete. The site-specific MACT Rule has been published in the Federal Register.

Mechanisms That Are Not Enforceable:

ISO 14001 EMS: Item 1 – Complete. Audit by ISO registrar has recommended Weyerhaeuser’s EMS for registration to ISO 14001

WATER: Item 1 - Following timelines per the original FPA.

SOLID WASTE: Item 1 - Completed.

Item 2 –Land application of process solid wastes no longer appears to be an option due to new corporate policy regarding residuals disposal. Other options are being explored, including equipment/chemistry changes that may significantly reduce solid waste generation. Following timelines per the original FPA for 50% reduction.

HAZARDOUS WASTE: Item 1 - Completed.

FEASIBILITY PLANS: Item 1 - Following timelines per the original FPA.

ENERGY: Item 1 – Complete, in-depth feasibility study completed.

Item 2 – Complete, Goal for total plant steam production is 20.0 M#/ADMT.

VI. SCHEDULE:

Next Twelve Months

The key focus areas for continued successful implementation of the FPA over the next six months will be the following:

- Identify additional water conservation measures or projects to drive towards the goal of 10.18 MGD total water usage;
- Continue to evaluate and implement, where warranted, strategies that are environmentally beneficial and economically feasible which resulted from the Bleach Plant Effluent Reduction study;
- Continue efforts in Energy Conservation to reach the goal of 20.0 M#/ADMT total steam usage;
- Continue to operate the Environmental Management System in conformance with ISO 14001;
- Focus on continued reduction of Solid Waste resulting from increased reliability of the Calciner and other lime cycle improvements.

Long Term Schedule

Over the longer term, Weyerhaeuser will continue to look for opportunities to reduce Bleach Plant effluent as well as plant water usage. Solid waste reduction will also be a focus area. Improved Calciner reliability must be achieved with process equipment/chemistry changes to reduce the major process residual, lime mud. In the long term, replacement of the Calciner with a Lime Kiln will be studied to determine if this is economically justifiable. Additionally, we will continue our on-going dialogue with stakeholders seeking their input on our facility’s long-term environmental performance, including the Lake Blackshear Watershed Association, Macon County Local Emergency Planning Committee, Georgia Southwestern State University, representatives of local and state governments, local neighbors and facility employees.

Weyerhaeuser Project Contact Listing:

Please contact the below listed Weyerhaeuser individuals for more information regarding this FPA:

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## GLOSSARY OF TERMS

|                 |   |
|-----------------|---|
| ADMT            | Air Dry Metric Ton - measure of the facility's finished product = 2,205 lbs   |
| AOX             | Adsorbable Organic Halide - measurement of the amount of chlorinated organic compounds.   |
| BOD5            | Biological Oxygen Demand - the amount of oxygen consumed in five days by biological processes breaking down organic matter.                   |
| COD             | Chemical Oxygen Demand - the measure of oxygen required to oxidize all compounds in water, both organic and inorganic.                        |
| EMS             | Environmental Management System   |
| EPA             | United States Environmental Protection Agency   |
| EPD             | Georgia Environmental Protection Division   |
| FPA             | Final Project Agreement   |
| HAP             | Hazardous Air Pollutant   |
| ISO             | International Standards Organization  |
| M#/ADMT         | Unit of measure: Thousands of Pounds (steam) per ADMT   |
| M#/hr           | Unit of measure: Thousands of Pounds (steam) per Hour   |
| MACT            | Maximum Achievable Control Technology   |
| MGD             | Million Gallons per Day   |
| MIM             | Minimum Impact Manufacturing - a holistic pollution prevention strategy to minimize the impact on the natural environment (air, soil, water). |
| NPDES           | National Pollutant Discharge Elimination System   |
| ORP             | Oxidation Reduction Potential   |
| SO <sub>2</sub> | Sulfur Dioxide  |
| TRS             | Total Reduced Sulfur  |
| TSS             | Total Suspended Solids - a measurement of the amount of suspended solids in an effluent water sample.   |
| XL              | eXcellence and Leadership   |

## 2001 ANNUAL ACTUALS FPA - TABLE ONE

### MINIMUM IMPACT MILL - KEY ENVIRONMENTAL DATA PARAMETERS

Parameters important to demonstrating continuous improvement towards a Minimum Impact Mill are:

| ENVIRONMENTAL PARAMETER                                  |  | 1996 ACTUAL   |               | 1997 ACTUAL   |               | 1998 ACTUAL   |               | 1999 ACTUAL   |               | 2000 ACTUAL   |               | 2001 ACTUAL   |               |
|--|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| WATER  |  |               |               |               |               |               |               |               |               |               |               |               |               |
| Water Usage (MMGD)                                       |  | 11.91         |               | 11.74         |               | 11.49         |               | 11.92         |               | 11.11         |               | 10.93         |               |
| Bleach Plant Effluent Volume (m3/ADMT)                   |  | 20            |               | 20            |               | 20            |               | 20            |               | 20            |               | 20            |               |
| Final Effluent Volume (gal/ADMT)                         |  | 11,704        |               | 11,365        |               | 11,366        |               | 9,833         |               | 10,208        |               | 9,152         |               |
| BOD (lbs/ADMT)   |  | 3.52          |               | 3.01          |               | 2.13          |               | 2.83          |               | 3.49          |               | 3.39          |               |
| COD (lbs/ADMT)   |  | 53.8          |               | 36.5          |               | 35.5          |               | 35.3          |               | 40.5          |               | 34.7          |               |
| TSS (lbs/ADMT)   |  | 3.58          |               | 3.13          |               | 2.80          |               | 3.87          |               | 3.92          |               | 3.99          |               |
| AOX (kg/ADMT)  |  | 0.10          |               | 0.10          |               | 0.10          |               | 0.10          |               | 0.09          |               | 0.09          |               |
| Dioxin - 2,3,7,8 TCDD                                    |  | non detect    |               | non detect    |               | non detect    |               | non detect    |               | non detect    |               | non detect    |               |
| Color (lbs/ADMT)   |  | 115           |               | 94            |               | 87            |               | 86            |               | 94            |               | 70            |               |
| Nutrients: NH3-N & Total P (lbs/ADMT)                    |  | NH3-N<br>0.14 | Tot P<br>0.15 | NH3-N<br>0.15 | Tot P<br>0.13 | NH3-N<br>0.20 | Tot P<br>0.14 | NH3-N<br>0.15 | Tot P<br>0.14 | NH3-N<br>0.23 | Tot P<br>0.13 | NH3-N<br>0.23 | Tot P<br>0.13 |
| Chronic Toxicity – Ceriodaphnia<br>(IC25 Annual Average) |  | 55            |               | 81            |               | 47            |               | 55            |               | 58            |               | 80            |               |
| AIR  |  |               |               |               |               |               |               |               |               |               |               |               |               |
| Particulate (tons/year) (1)                              |  | 423           |               | 385           |               | 390           |               | 395           |               | 443           |               | 399           |               |

|  |  |                  |                                      |                             |                             |   |   |
|--|--|------------------|--------------------------------------|-----------------------------|-----------------------------|---|---|
| Total Reduced Sulfur (tons/year) (2)                           |  | 39               | 35                                   | 33                          | 35                          | 35  | 35  |
| Chloroform (tons/year) (3)                                     |  | 0.94             | 0.89                                 | 1.00                        | 0.98                        | 0.98  | 1.00  |
| Chlorine (tons/year) (3)                                       |  | 0.18             | 0.18                                 | 0.19                        | 0.19                        | 0.19  | 0.19  |
| Chlorine Dioxide (tons/year) (3)                               |  | 0.67             | 0.68                                 | 0.70                        | 0.68                        | 0.68  | 0.69  |
| CO (tons/year) (6)   |  | 1676             | 1454                                 | 1573                        | 1599                        | 1612  | 1513  |
| NOx (tons/year) (4)  |  | 832              | 769                                  | 795                         | 814                         | 826   | 825   |
| SO2 (tons/year) (4)  |  | 271              | 624                                  | 582                         | 303                         | 405   | 392   |
| VOC's as C (tons/year) (5)                                     |  | 636              | 669                                  | 652                         | 632                         | 646   | 645   |
| Opacity - Recovery Boiler<br>(% Excess Opacity Emissions/year) |  | 0.65%            | 1.70%                                | 0.70%                       | 0.50%                       | 0.49%   | 1.06%   |
| HAP's (tons/year) (5)  |  | 425              | 429                                  | 426                         | 428                         | 428   | 418   |
| <b>SOLID WASTE</b>   |  |                  |                                      |                             |                             |   |   |
| Solid Waste Generation (lbs/ADMT)                              |  | 505              | 409                                  | 461                         | 498                         | 489   | 596   |
| Solid Waste Disposition  |  | on-site landfill | on-site landfill                     | on-site landfill            | on-site landfill            | on-site landfill                              | on-site landfill  |
| Hazardous Waste Generation Status (7)                          |  | SQG              | Conditionally<br>Exempt SQG          | Conditionally<br>Exempt SQG | Conditionally<br>Exempt SQG | Conditionally<br>Exempt SQG                   | Conditionally<br>Exempt SQG   |
| <b>OTHER</b>   |  |                  |                                      |                             |                             |   |   |
| Accidental Releases/Spills (#/year)                            |  | 0                | 1 (Sulfuric Acid<br>spill to ground) | 0                           | 0                           | 2 (Venting NCG<br>Gas due to<br>Malfunctions) | 4 Total<br>3 (Venting NCG<br>Gas due to<br>Malfunctions)<br>1 (Minor<br>untreated waste<br>water spill to<br>creek due to<br>plugged drain) |

|  |  |       |       |                      |       |              |       |
|--|--|-------|-------|----------------------|-------|--------------|-------|
| Reportable Permit Incidents (#/year)                                   |  |       |       |                      |       |              |       |
| - Air Permit Incidents (8)   |  | 25    | 27    | 59                   | 37    | 18           | 23    |
| - All Other Permits (NPDES, Landfill, Potable Water, Water Withdrawal) |  | 0     | 0     | 1<br>(Potable Water) | 0     | 1<br>(NPDES) | 0     |
| Sara 313 (# Reportable Chemicals/year) (9)                             |  | 10    | 11    | 11                   | 11    | 14           | 20    |
| Energy Steam Usage (MlbsSteam/ADMT) (10)                               |  | 22.44 | 20.94 | 20.56                | 20.53 | 20.50        | 20.21 |
| Community Complaints   |  |       |       |                      |       |              |       |
| * Site Appearance  |  | None  | None  | None                 | None  | None         | None  |
| * Odor (#/year)  |  | 2     | 3     | 3                    | 8     | 2            | 1     |
| * Noise (#/year)   |  | 0     | 0     | 0                    | 0     | 0            | 0     |

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- 1 Emissions calculated from Recovery boiler, Power boiler, Calciner, Smelt dissolving tank and fugitives.
  - 2 Emissions calculated from Recovery boiler, Calciner, Smelt dissolving tank and process vents.
  - 3 Emissions calculated from all process vents. Figures for 1995, 1996, and 1997 have been revised to indicate emissions from all process vents and to correct a conversion factor error. The data for these items are derived from SARA 313 estimates.
  - 4 Emissions calculated from Recovery boiler, Power boiler, Calciner and Smelt dissolving tank.
  - 5 Emissions calculated from Recovery boiler, Power boiler, Calciner, Smelt dissolving tank, process vents and fugitives.
  - 6 Emissions calculated from Recovery boiler, Power boiler, Calciner, Smelt dissolving tank and process vents.
  - 7 Small quantity generator status is < 2,200 lbs/month hazardous waste generation; Conditionally Exempt SQG < 220 lbs/month.
  - 8 Number of air permit incidents reported in quarterly excess emissions reports for 1995, 1996, 1997. Includes air pollution control equipment malfunctions, excess emissions incidents, continuous emission monitor malfunctions, non condensable gas collection system venting incidents and surrogate parameters exceedances. No enforceable actions taken.
  - 9 The SARA 313 chemicals reported for 1995: acetaldehyde, ammonia, catechol, chlorine, chlorine dioxide, cresols, formic acid, hydrochloric acid, methanol, nitrate, phenol, sulfuric acid. Reported 1996: acetaldehyde, ammonia, catechol, chlorine, chlorine dioxide, cresols, hydrochloric acid, methanol, phenol, sulfuric acid. Reported 1997: acetaldehyde, ammonia, catechol, chlorine, chlorine dioxide, cresols, methanol, phenol, sulfuric acid, nitrate, formic acid. The facility's SARA 313 calculations are primarily based on industry emissions factors which are being revised annually.
  - 10 Energy steam usage is the quantity of on-site steam generation from the Recovery and Power Boilers required to produce an air dry metric ton of finished fluff pulp.

## 2001 ANNUAL ACTUALS FPA - TABLE TWO

### FLINT RIVER BASELINE PERFORMANCE AND MIM IV GOALS TO BE INCLUDED IN ENFORCEABLE PERMITS

| ENVIRONMENTAL PARAMETER <sup>1</sup>     | BASELINE <sup>2</sup> | 1996<br>ACTUAL | 1997<br>ACTUAL | 1998<br>ACTUAL | 1999<br>ACTUAL | 2000<br>ACTUAL | 2001<br>ACTUAL | FPA<br>AGREEMENT<br>MIM<br>PHASE IV GOAL |
|--|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| Raw Water Usage (million<br>gallons/day) | 11.18                 | 11.91          | 11.74          | 11.49          | 11.92          | 11.11          | 10.93          | 11.50                                    |
|  |                       |                |                |                |                |                |                |  |
| Effluent Discharged to Flint River       |                       |                |                |                |                |                |                |  |
| BOD (lbs./ADMT)                          | 4.32                  | 3.52           | 3.01           | 2.13           | 2.83           | 3.49           | 3.39           | 3.80                                     |
| TSS (lbs./ADMT)                          | 4.65                  | 3.58           | 3.13           | 2.80           | 3.87           | 3.92           | 3.99           | 4.09                                     |
| AOX (kg./ADMT)                           | 0.11                  | 0.10           | 0.10           | 0.10           | 0.10           | 0.09           | 0.09           | 0.15                                     |

<sup>1</sup> Applicable regulatory requirements are unaffected for all regulated environmental parameters that are not listed in Table Two.

<sup>2</sup> Baseline conditions are derived from average monthly values for calendar 1993, 1994 and 1995.

### 2001 ANNUAL ACTUALS FPA - TABLE THREE

#### **FLINT RIVER BASELINE PERFORMANCE AND MIM GOALS THAT WILL *NOT* BE INCLUDED IN ENFORCEABLE PERMITS**

| ENVIRONMENTAL PARAMETER   | BASELINE           | 1996<br>ACTUAL     | 1997<br>ACTUAL              | 1998<br>ACTUAL                      | 1999<br>ACTUAL                    | 2000<br>ACTUAL              | 2001<br>ACTUAL              | FPA AGREEMENT<br>MIM<br>PHASE V GOAL |
|---|--------------------|--------------------|-----------------------------|-------------------------------------|-----------------------------------|-----------------------------|-----------------------------|--------------------------------------|
| Solid Waste Generation (lbs/ADMT)                                     | 690                | 505                | 409                         | 461                                 | 498                               | 489                         | 596                         | 310                                  |
| Hazardous Waste Generation  | Small<br>Qty.Gen.  | Small<br>Qty.Gen.  | Conditionally<br>Exempt SQG | Conditionally<br>Exempt SQG         | Conditionally<br>Exempt SQG       | Conditionally<br>Exempt SQG | Conditionally<br>Exempt SQG | Conditionally<br>Exempt SQG          |
| Bleach Plant Flow (m <sup>3</sup> /ADMT)                              | 20                 | 20                 | 20                          | 20                                  | 20                                | 20                          | 20                          | 10                                   |
| Environmental Management System                                       | Flint River<br>EMS | Flint River<br>EMS | Flint River<br>EMS          | Flint River<br>EMS                  | Flint River<br>EMS                | ISO 14001<br>(Conforms)     | ISO 14001<br>(Conforms)     | ISO 14001                            |
|   |                    |                    |                             |                                     |                                   |                             |                             |                                      |
| Energy Conservation   |                    |                    |                             | Feasibility<br>Study in<br>Progress | Feasibility<br>Study<br>Completed |                             |                             |                                      |
| Total Plant Steam Usage (m#/ADMT)<br>(Power Boiler + Recovery Boiler) | 21.58              | 22.44              | 20.94                       | 20.56                               | 20.53                             | 20.50                       | 20.21                       | 20.00                                |
| Power Boiler Steaming Rate (m#/hr)                                    | 274                | 267                | 234                         | 205                                 | 201                               | 203                         | 196                         | 175                                  |